

Workshop Tasks

- Group 1 –According to Dow and Cutter, what social factors constrain community evacuation behavior?
- Group 2 –According to Dow and Cutter, what percentages of the populations threatened by Hurricanes Bertha and Fran actually evacuated?
- Group 3 –According to Dow and Cutter, what actions and information most convinced people to evacuate prior to Hurricanes Bertha and Fran?
- Group 4 – According to Dow and Cutter, how do false alarms affect subsequent evacuation behavior?

Social Constraints: Dow and Cutter

- Personal Risk Perception
- Message Characteristics (e.g., timely)
- Evaluation of Housing Safety
- Use of Probability Information
- Communication Linkages

Source: Adapted from Dow, Kirstin and Susan L. Cutter.
1998. *Coastal Management* 26:237-252, pp. 239-240.

Evacuation Rates

- Hurricane Floyd (1999) – 84%^a
- Hurricane Bonnie (1998) – 44%^a
- Hurricane Bertha (1996) – 41% (34% and 50%)^b
- Hurricane Fran (1996) – 59% (65% and 53%)^b
- Hurricane Hugo (1989) – 76% (72%, 62%, 81%, and 79%)^b
- Hurricane Diana (1984) – 29% (10% and 48%)^b

Sources: Adapted from: a – Dow, Kirstin and Susan L. Cutter. 2000. “South Carolina’s Response to Hurricane Floyd” (Quick Response Report #128). Boulder, Colorado: Natural Hazards Research and Applications Information Center, University of Colorado, p. 6; b – Dow, Kirstin and Susan L. Cutter. 1998. “Crying Wolf: Repeat Responses to Hurricane Evacuation Orders.” *Coastal Management* 26:237-252, p. 245.

Factors Producing Unnecessary Evacuations

- Believe they are in declared area
- Believe area is risky
- Friends-relatives leave
- Nonofficial sources recommend
- Fear later evaluation; go now

Source: Adapted from Sorensen, John H. and Dennis S. Milet. 1988.
“Warning and Evacuation: Answering Some Basic Questions.”
Industrial Crisis Quarterly 2:195-209.

Shelter Locations

- Relative's Home – 38%
- Friend's Home – 31%
- Private Firm – 17%
- Work Location – 8%
- Public Shelter – 7%
- Short Distance – 1%

Source: Adapted from Drabek, Thomas E. 1999. *Disaster-Induced Employee Evacuations*. Boulder, Colorado: Institute of Behavioral Science, University of Colorado, p. 91.

Constraints on Shelter Selections

- Availability of Relatives
- Availability of Friends
- Length of Forewarning
- Anticipated Length of Departure
- Level of Community Preparedness
- Nature of Threat
- Degree of Urbanization
- Socioeconomic Level of Evacuees

Special Populations

- Ethnic and Racial Minorities
- Non-English Speaking Persons
- Physically Challenged Persons
- Institutionalized Populations
- Children, e.g., School, Day Care
- Extreme Elderly, Including Home Bound
- Transients, e.g., Tourists, Business Travelers, Migrant Workers, Homeless
- Pets

Modes of Transportation

- Family Vehicle – 73%
- Relative's Vehicle – 6%
- Friend's Vehicle – 7%
- Official Transportation – 13%
- Other, e.g., Walked – 1%

Source: Adapted from Lindell, Michael K. and Ronald W. Perry. 1992. *Behavioral Foundations of Community Emergency Planning*. Washington, D.C.: Hemisphere Publishing, p. 258.

Session Summary

- Evacuation Constraints
- Evacuation Rates
- What Convinces People?
- False Alarms: Responses and Consequences
- Unnecessary Evacuations
- Places of Shelter
- Special Populations
- Constraints on Sheltering Requirements
- Modes of Transportation